

1/32

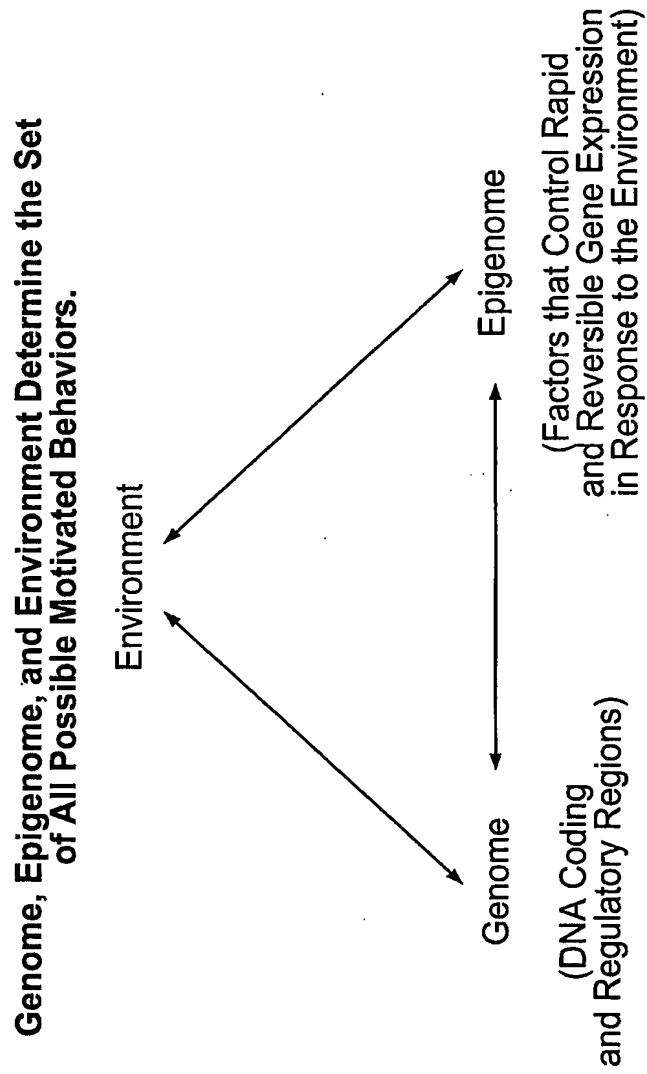
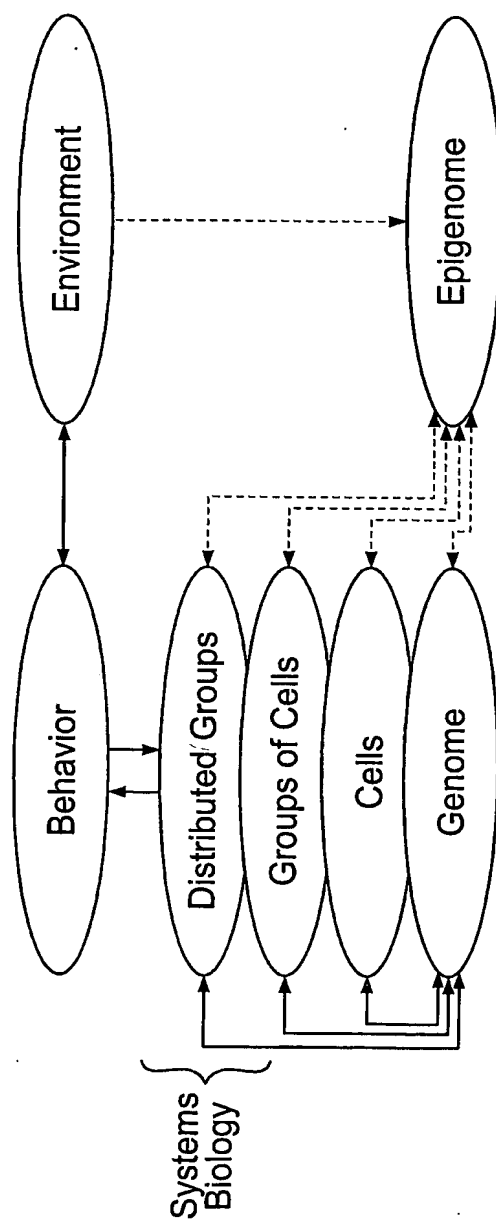


FIG. 1

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**Systems Biology Acts as an Interface Between
the Environment and Genome/Epigenome.**

**FIG. 2**

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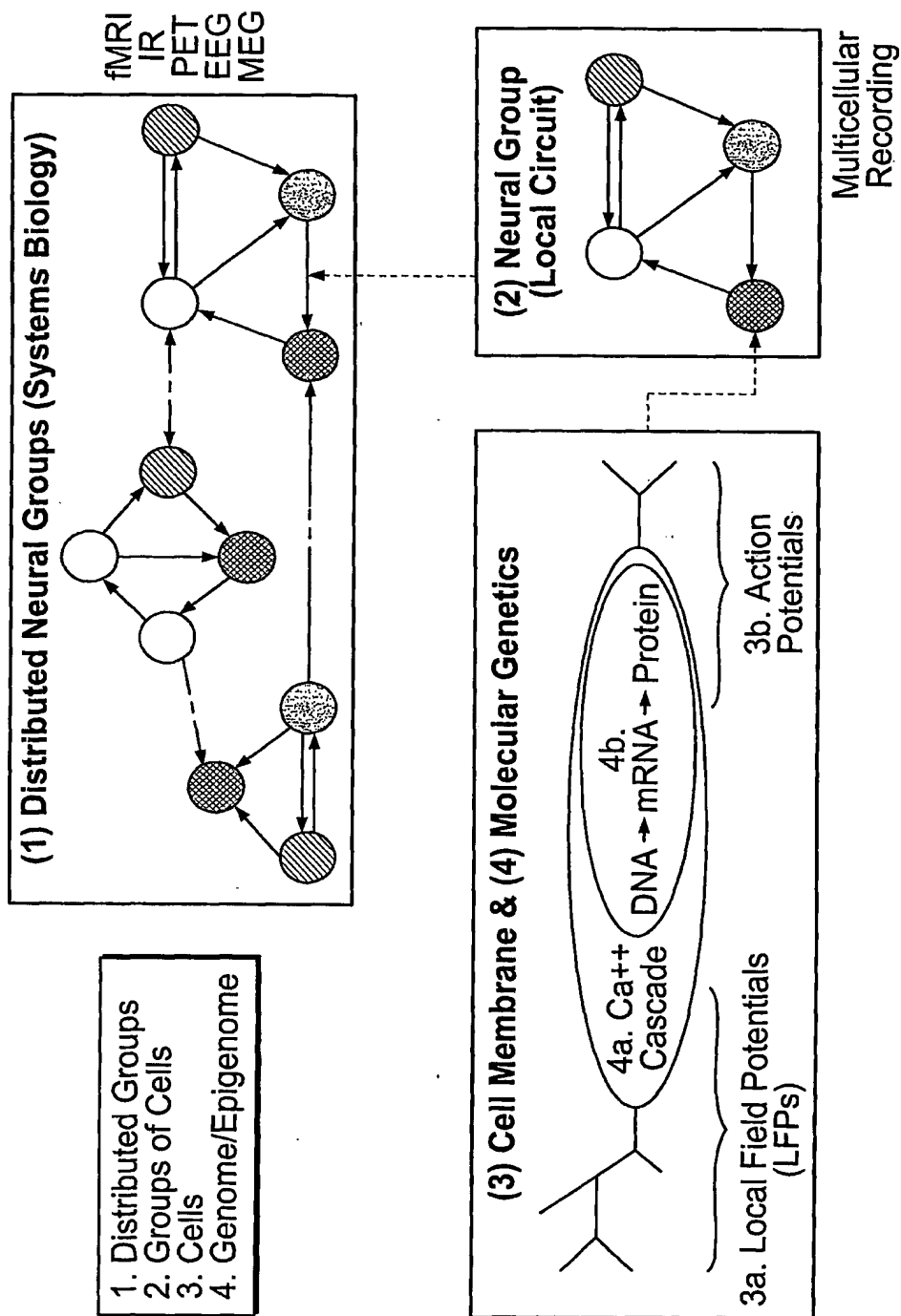


FIG. 3

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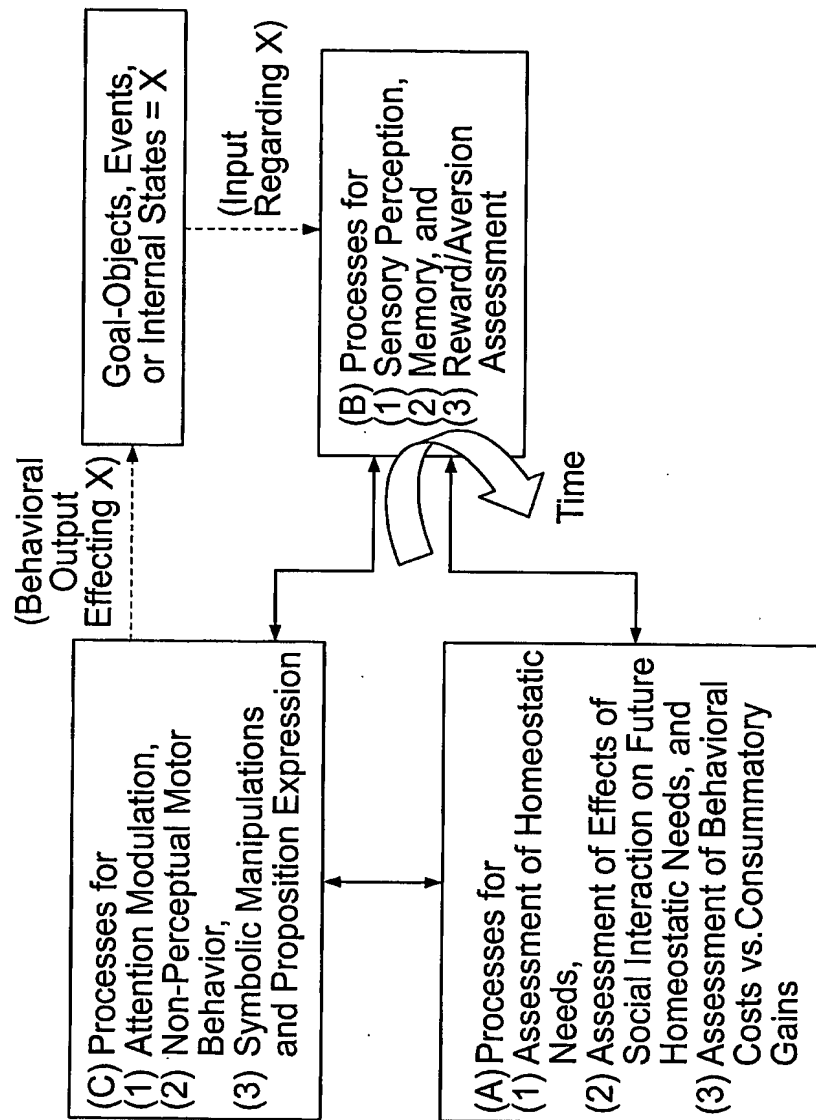
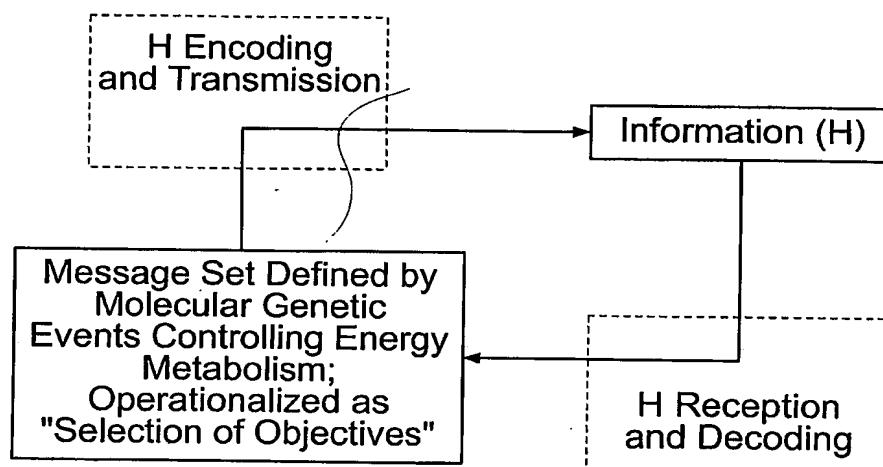
Cognitive Physiology Model

FIG. 4A

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Communication Theory Model**FIG. 4B**

Combined Model

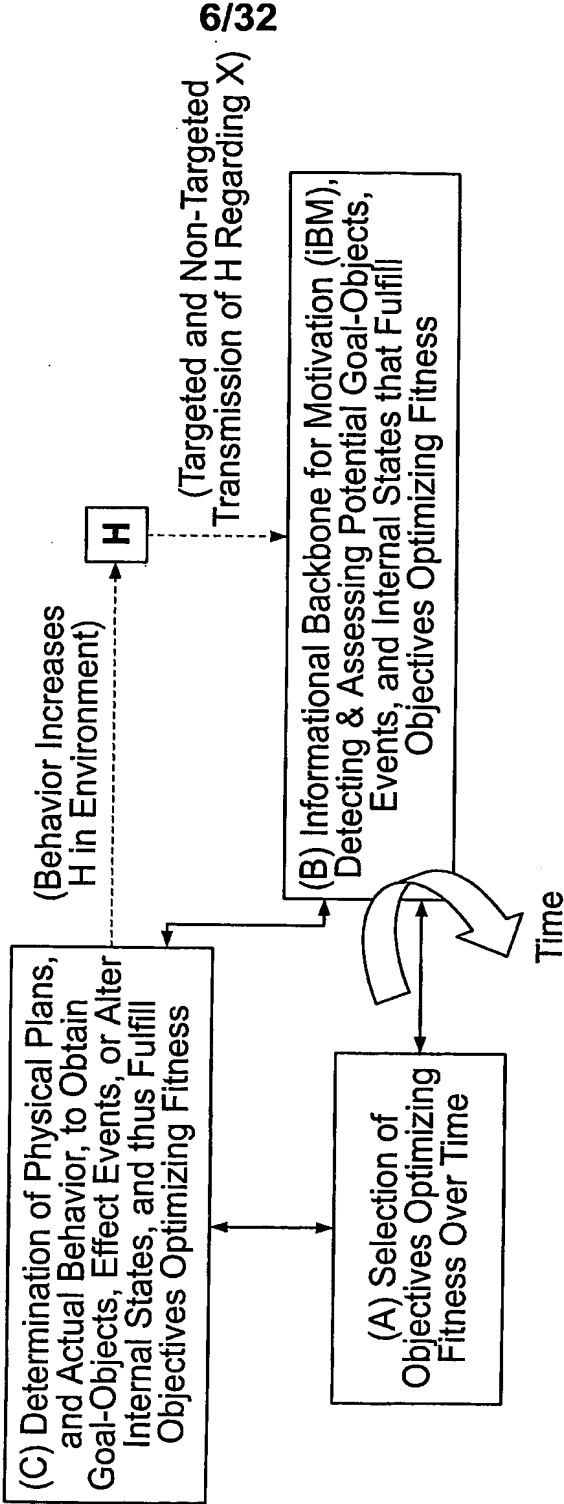


FIG. 4C

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The Informational Backbone for Motivation (IBM)

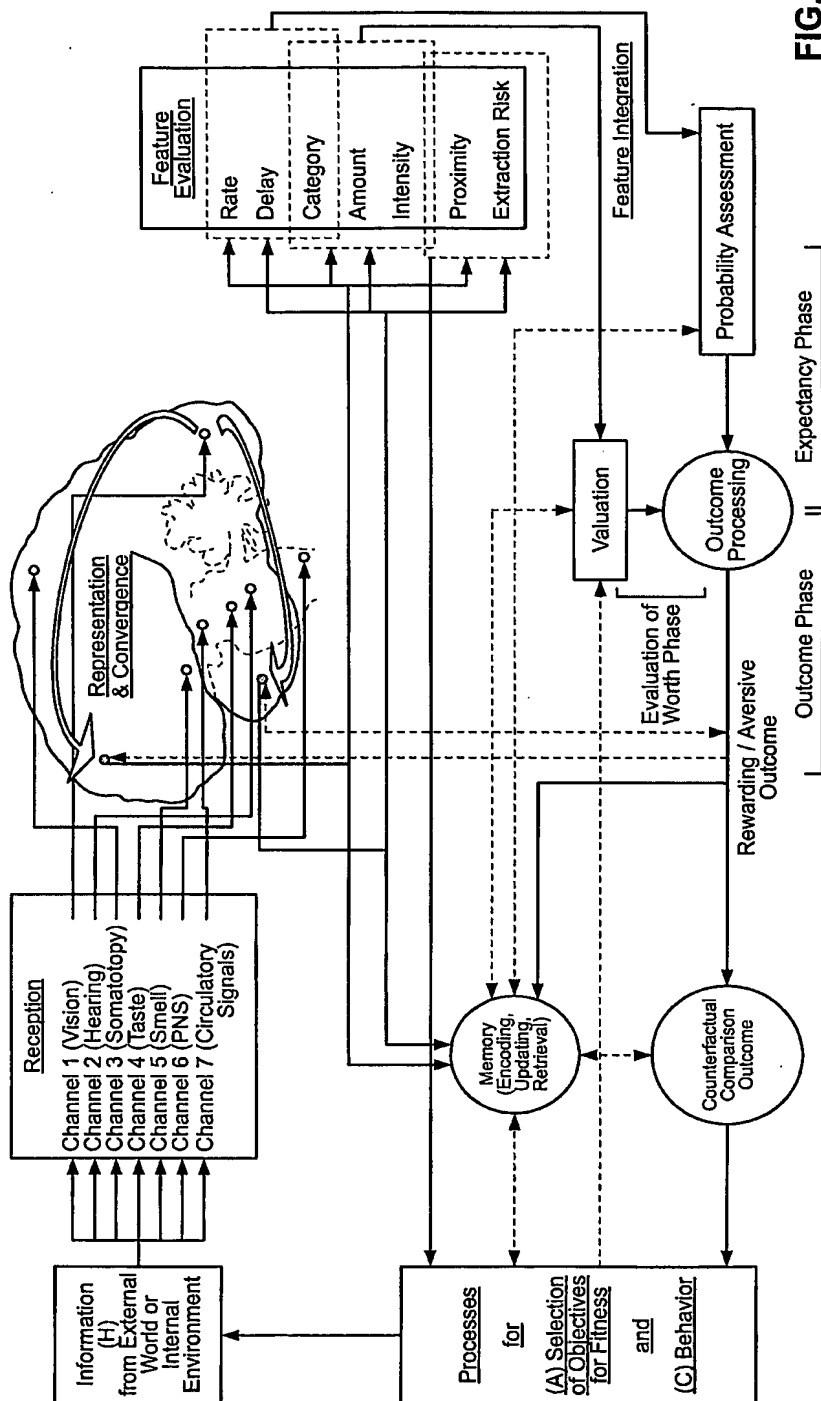


FIG. 5

Dissection of Combined Model
(a) Combined Model for Motivation:

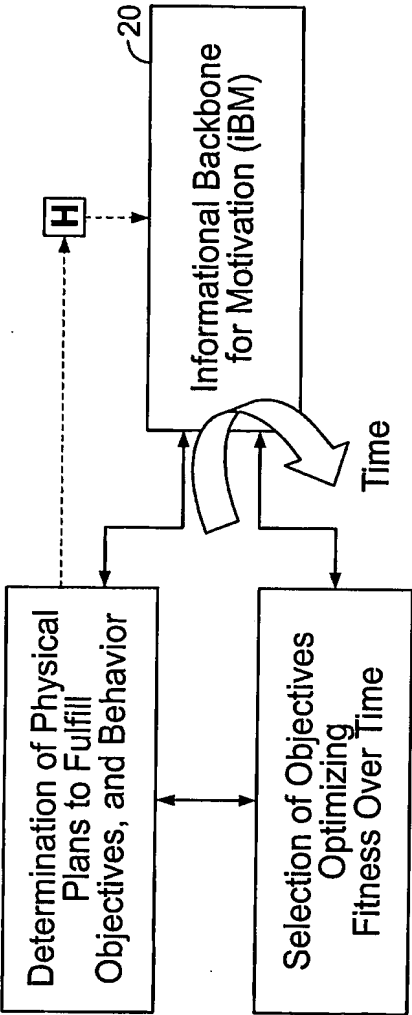


FIG. 6

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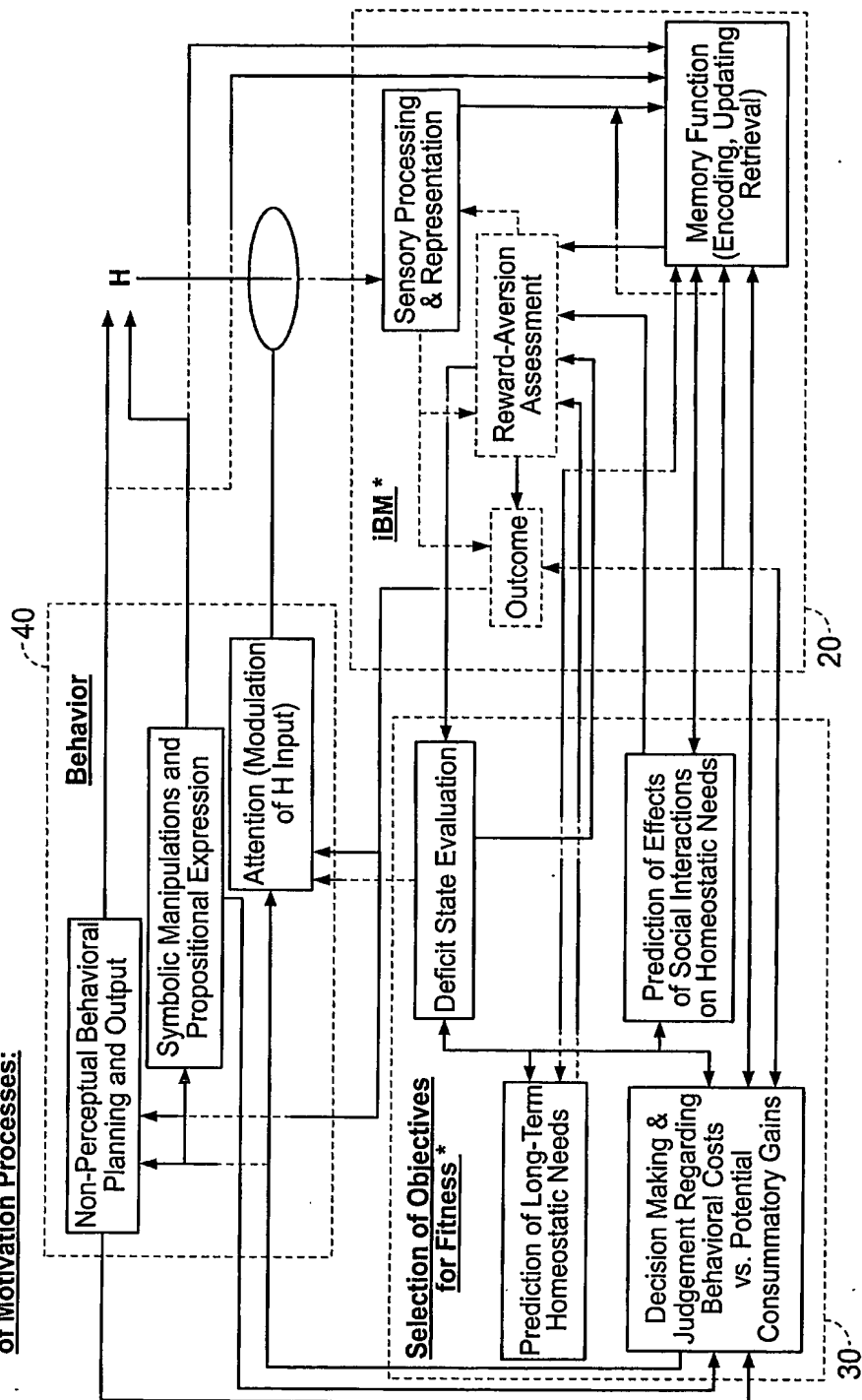
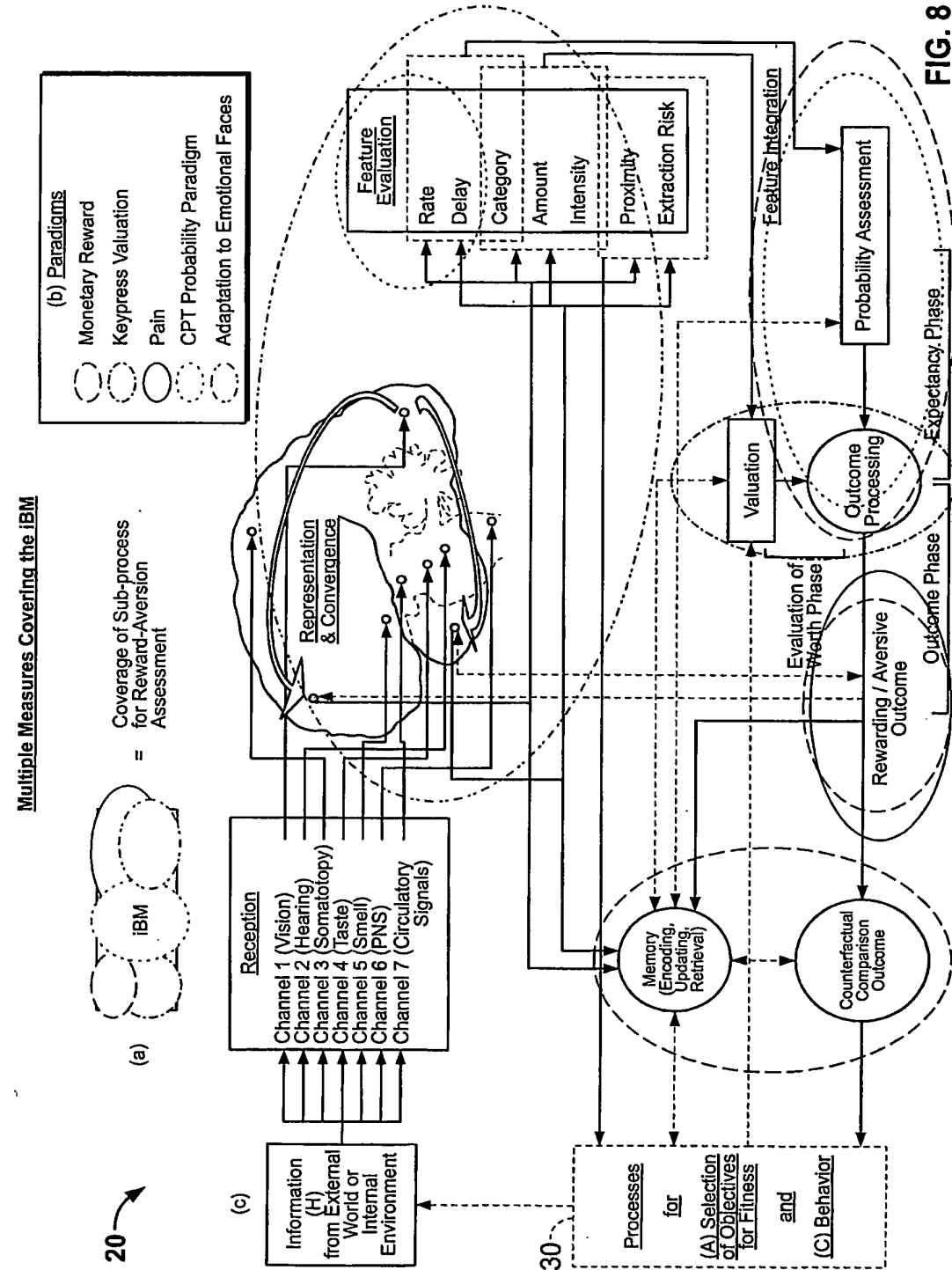
Dissection of Combined Model(b) Potential Dissection
of Motivation Processes:

FIG. 7

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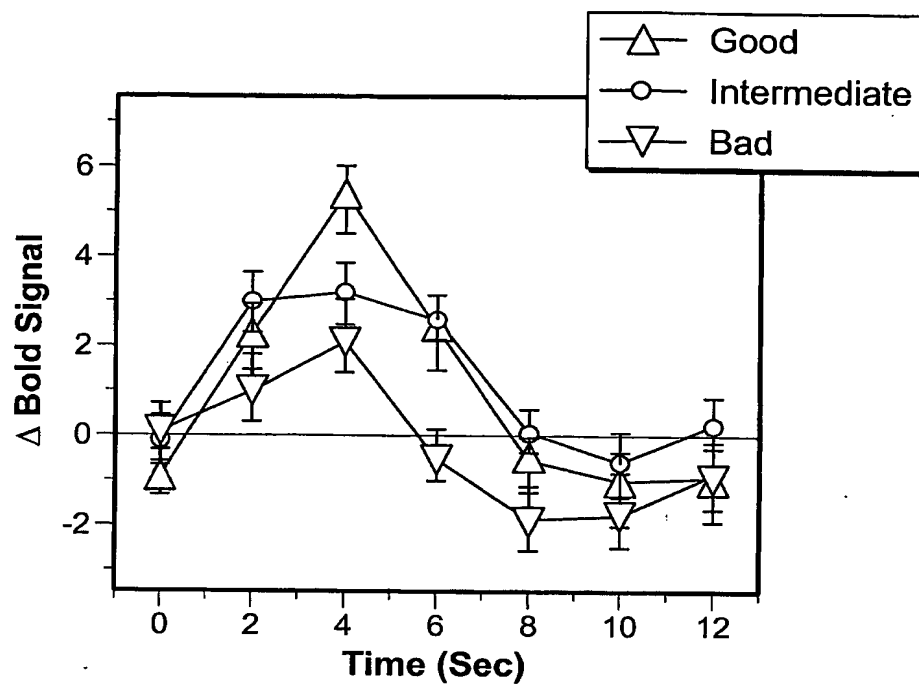


FIG. 9A

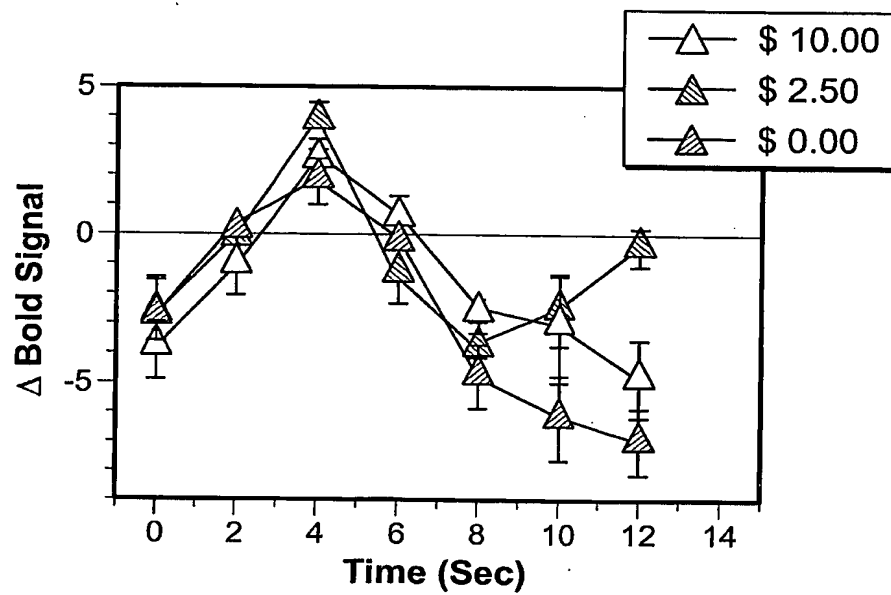


FIG. 9B

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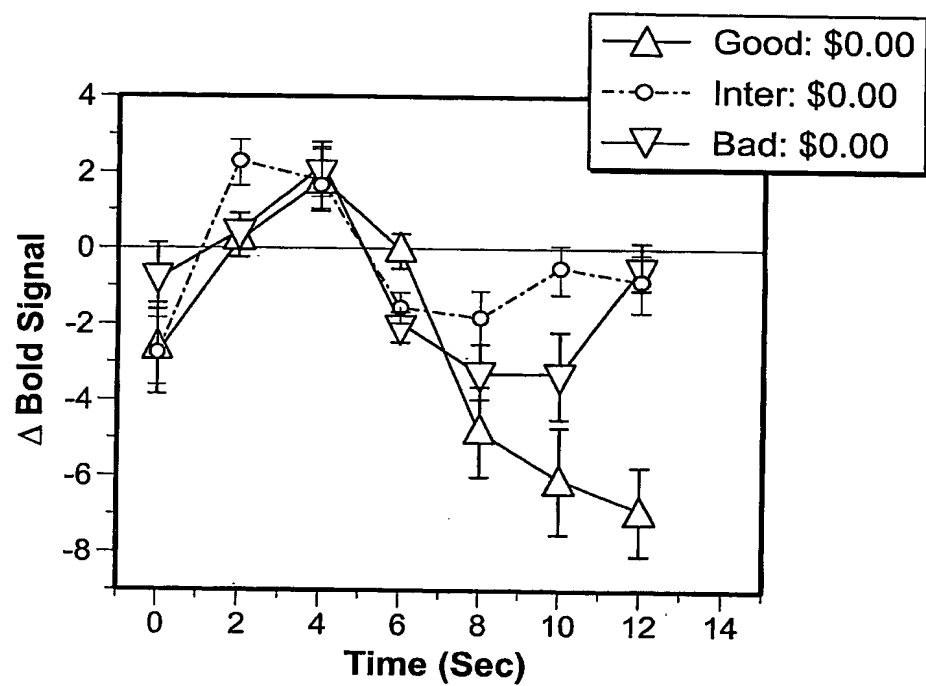


FIG. 9C

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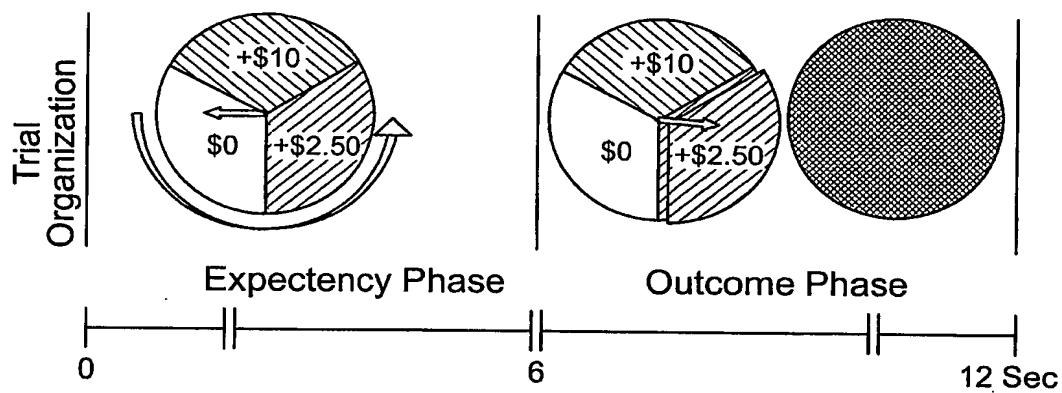


FIG. 9D

3 Types of Spinner

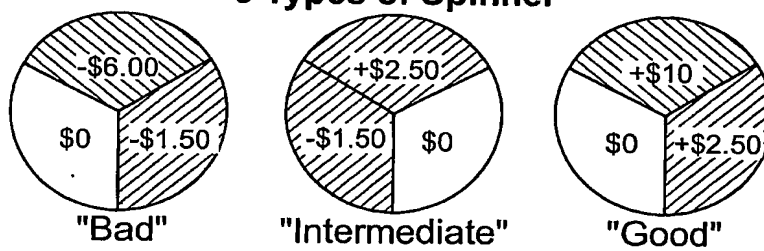


FIG. 9E

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Expectancy			Outcomes				
Region	Cocaine	Monetary Reward	Region	Cocaine	Monetary Reward	Beauty	Pain
GOB	R		GOB	(1) X	(2) X ³	(+) X ²	(-) X ²
	L			X	X ³		
NAC	R	X ²	NAC	X	X	X (X)	X
	L	X		X		X	X
SLEA	R	X	SLEA	(X) X	X	(X)	X
	L			X		X	
Amygdala	R		Amygdala	(X) X	X	(X)	(X)
	L	X		X	X		
VT	R		VT	X X	X	(X) X	X
	L			X X		X	X

FIG. 10A

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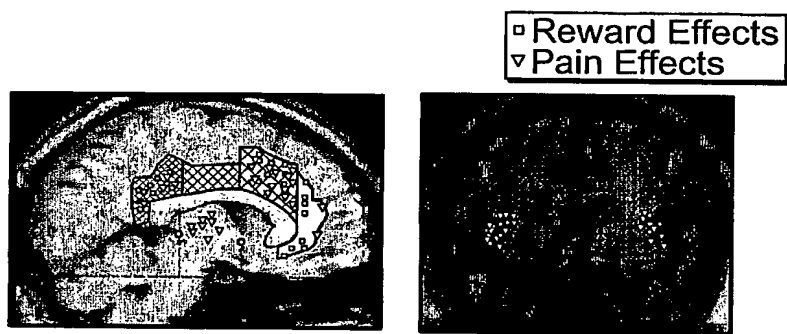
Monetary
Expectancy



Cocaine
Expectancy

FIG. 10B

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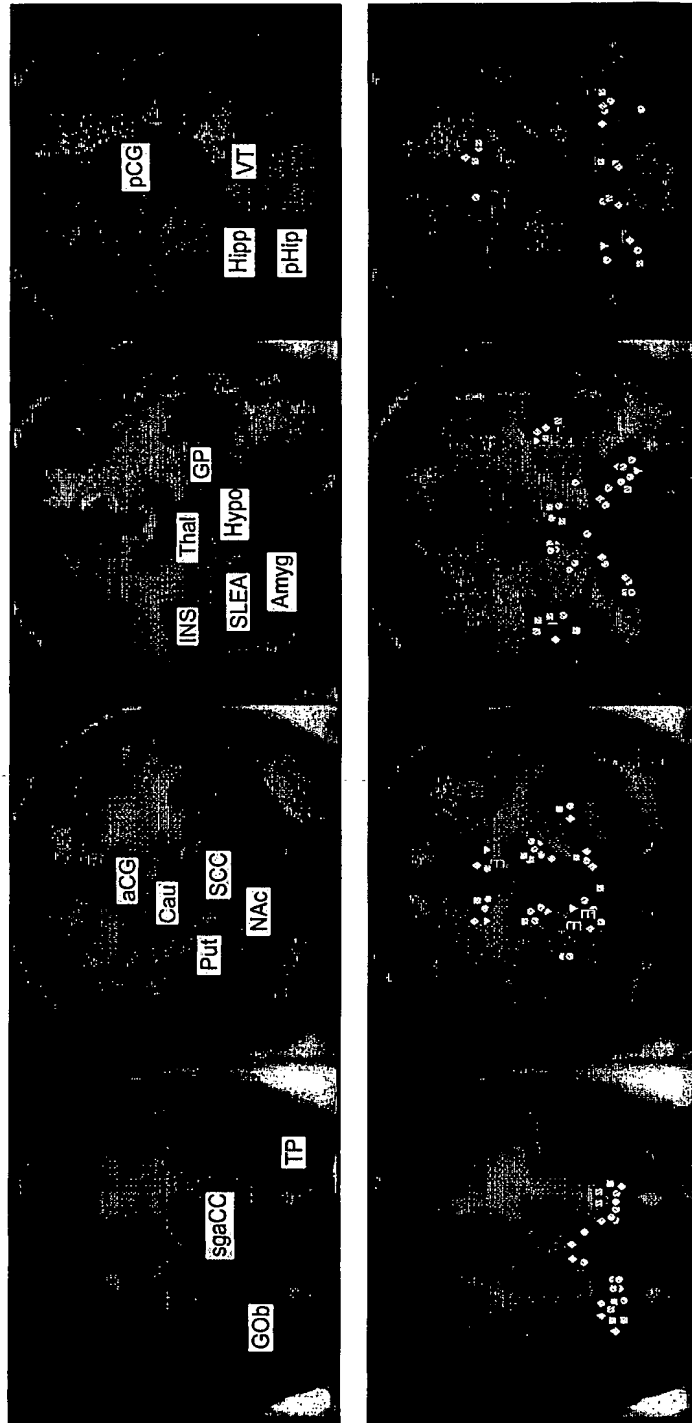
Reward and Pain in aCG, INS, Thal

FIG. 10C

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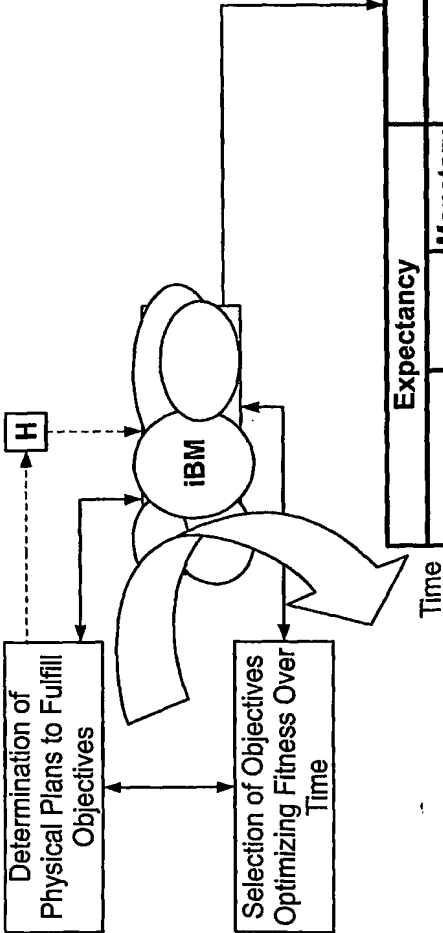
Consolidated Reward Studies in Healthy Subjects



Monetary Reward	Appetitive Reward	Social-Aesthetic Reward	Drug Reward	Probability Paradigms
<ul style="list-style-type: none"> ○ Guessing Paradigm ○ Performance Task ○ Prospect Theory Game 	<ul style="list-style-type: none"> □ Passive Fluid/Chocolate ■ Passive Taste 	<ul style="list-style-type: none"> ◇ Passive Viewing Beauty ◇ Passive Viewing Loved Face ◇ Passive Listening Music 	<ul style="list-style-type: none"> ▽ Passive Inf Amphetamine ▽ Passive Inf Procaine 	<ul style="list-style-type: none"> ≡ Cognitive Tasks Focussed On Probability Assessment

FIG. 11

Systems Biology Map



Expectancy			Outcomes				
Region	Cocaine	Monetary Reward	Region	Cocaine	Monetary Reward	Beauty	Pain
GOB	R		GOB	(1) X	(2) X ³	(+) X ²	(-) X ²
	L	X ²		X	X ³		
NAC	R	X	NAC	X	X	X (X)	X
	L	X		X		X	X
SLEA	R	X	SLEA	(X) X	X	(X)	X
	L			X		X	
Amygdala	R		Amygdala	(X) X	X	(X)	(X)
	L	X		X	X		
VT	R		VT	X	X	(X)	X
	L			X		X	X

FIG. 12

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**Circuit-Based Differences Allude
to Endophenotype Variations in Functional Illness**

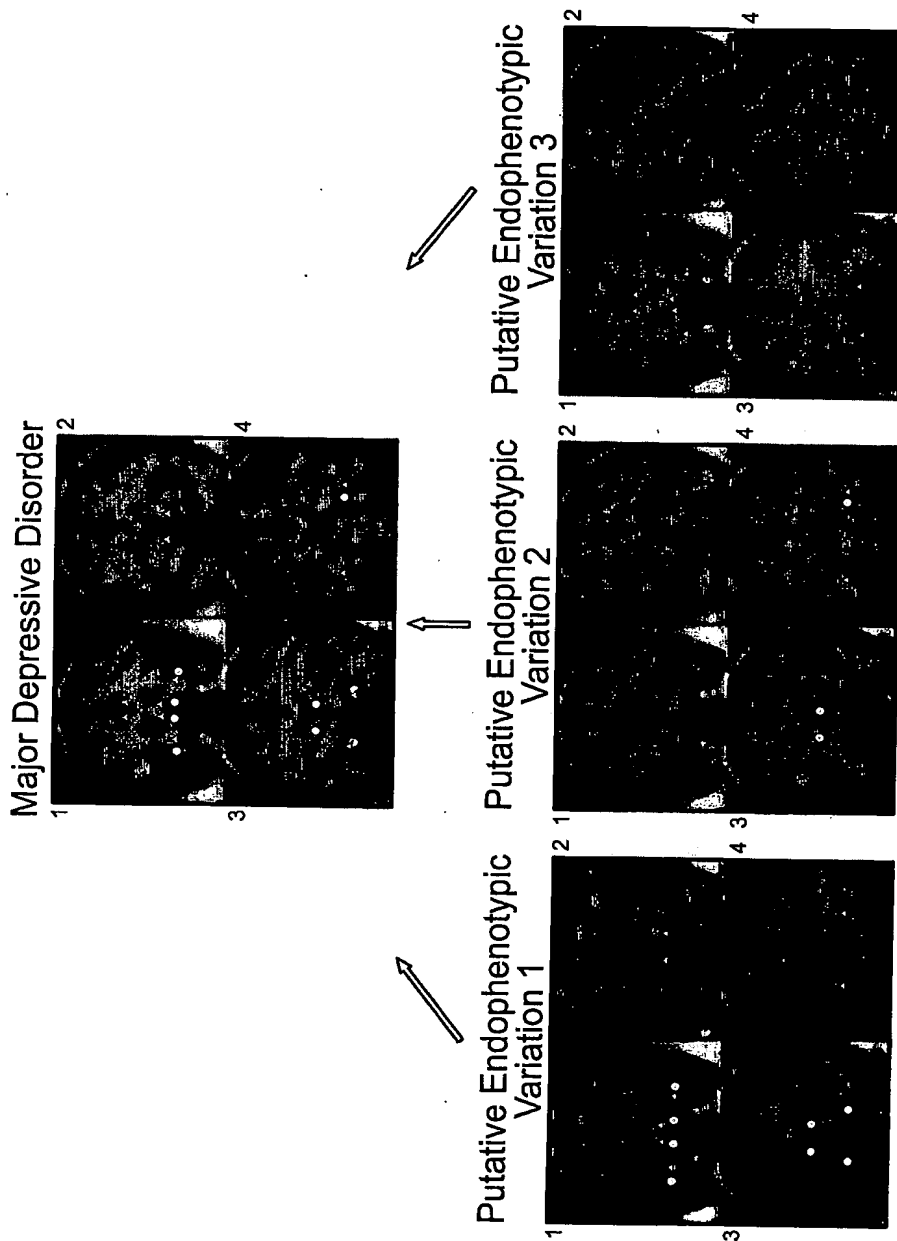


FIG. 13

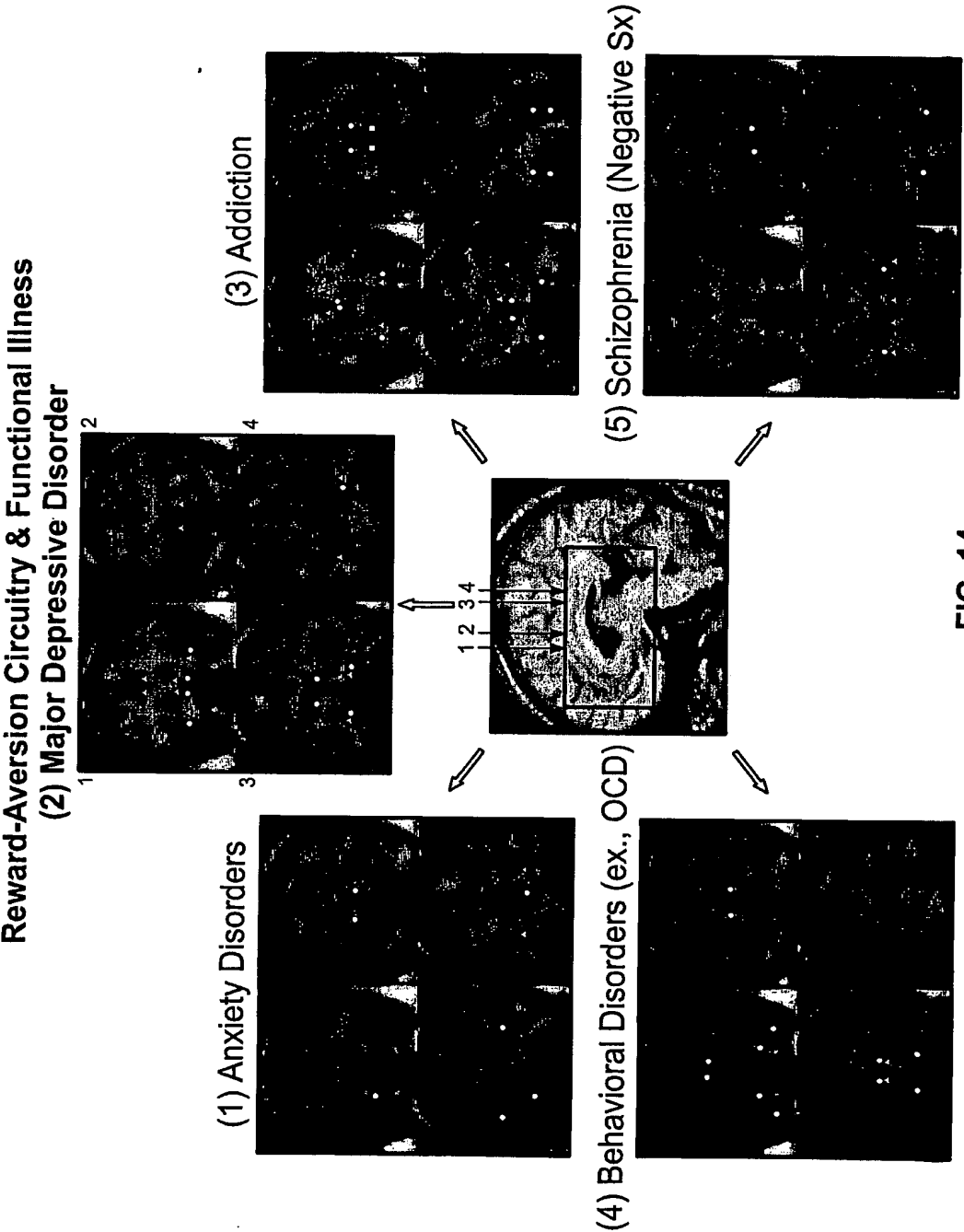


FIG. 14

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BEST AVAILABLE COPY

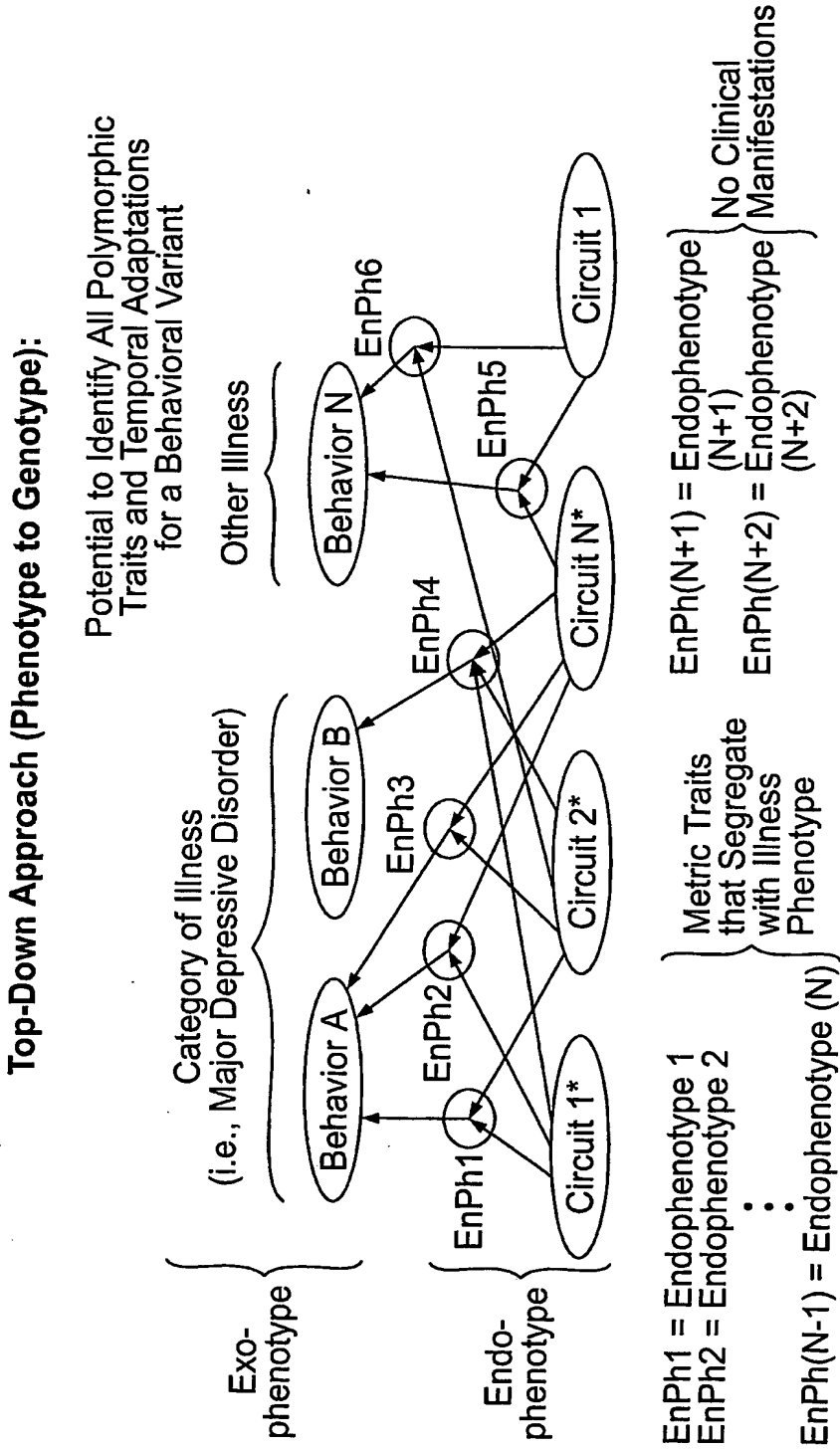


FIG. 15

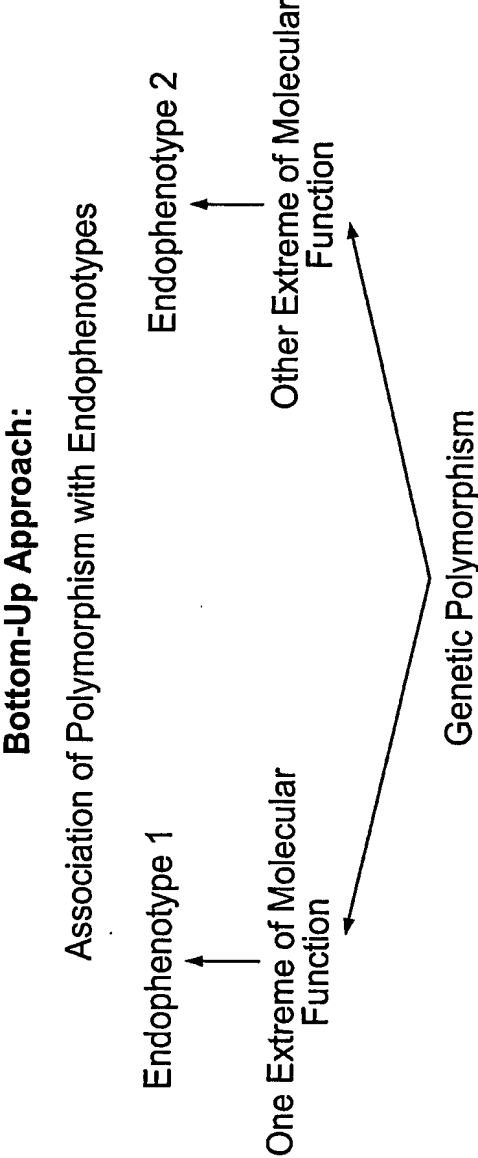


FIG. 16

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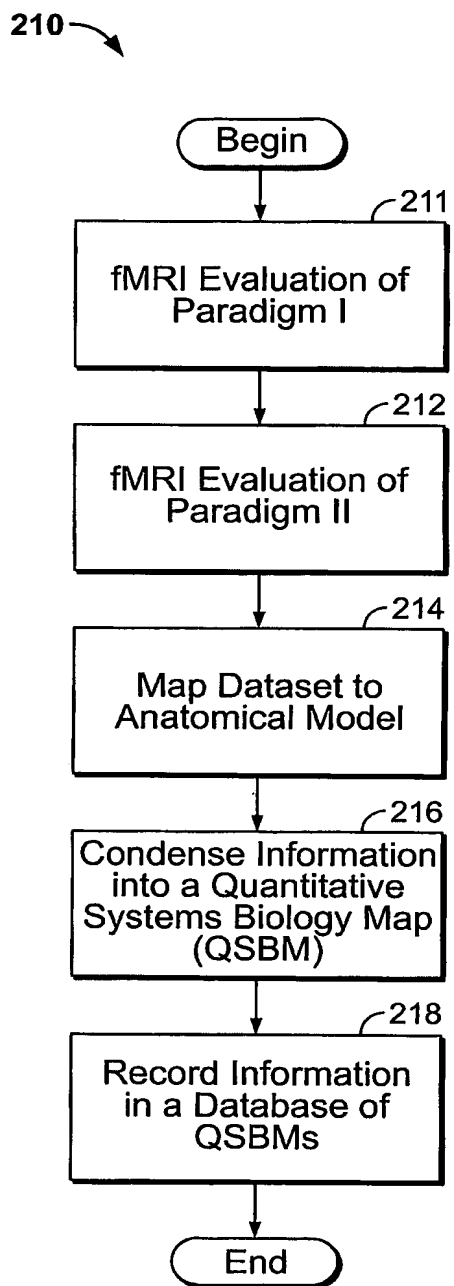


FIG. 17

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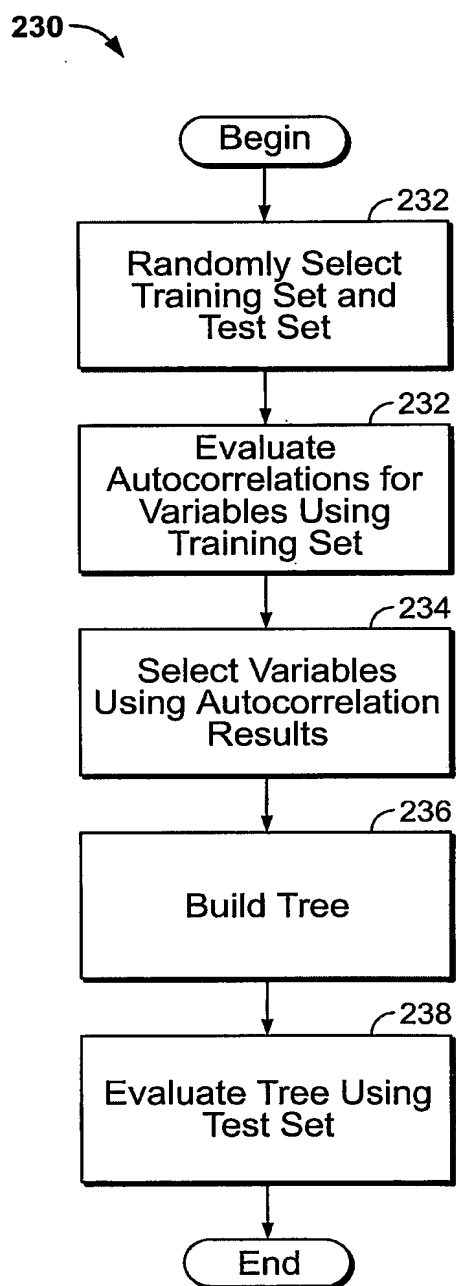
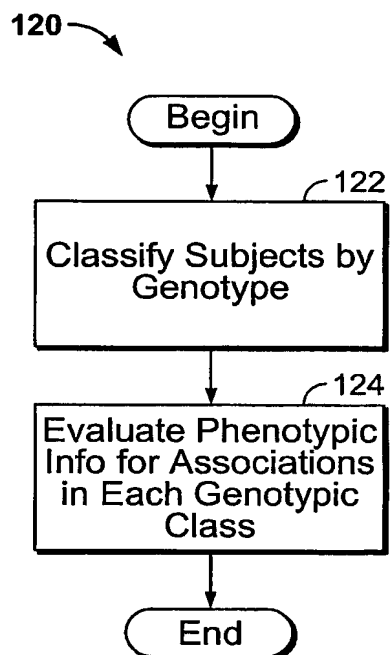
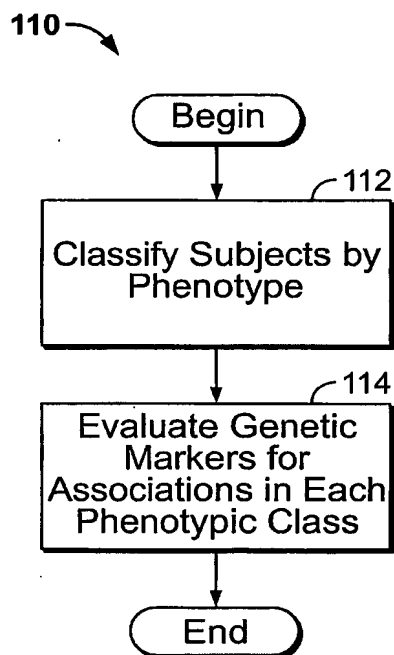


FIG. 18

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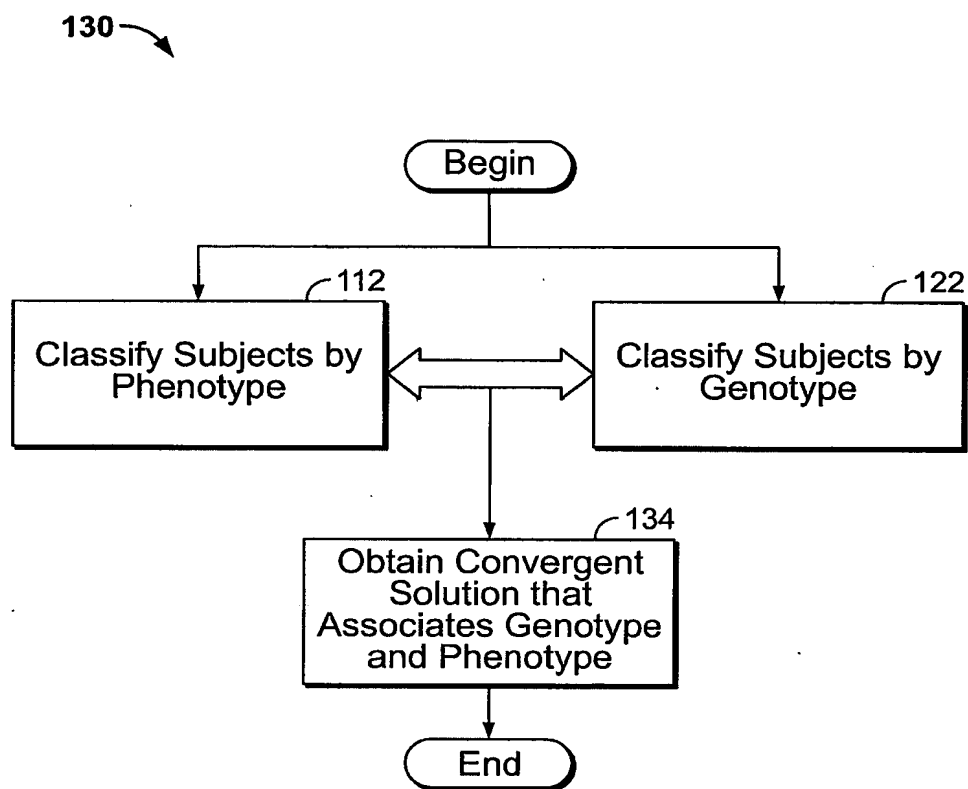


FIG. 19C

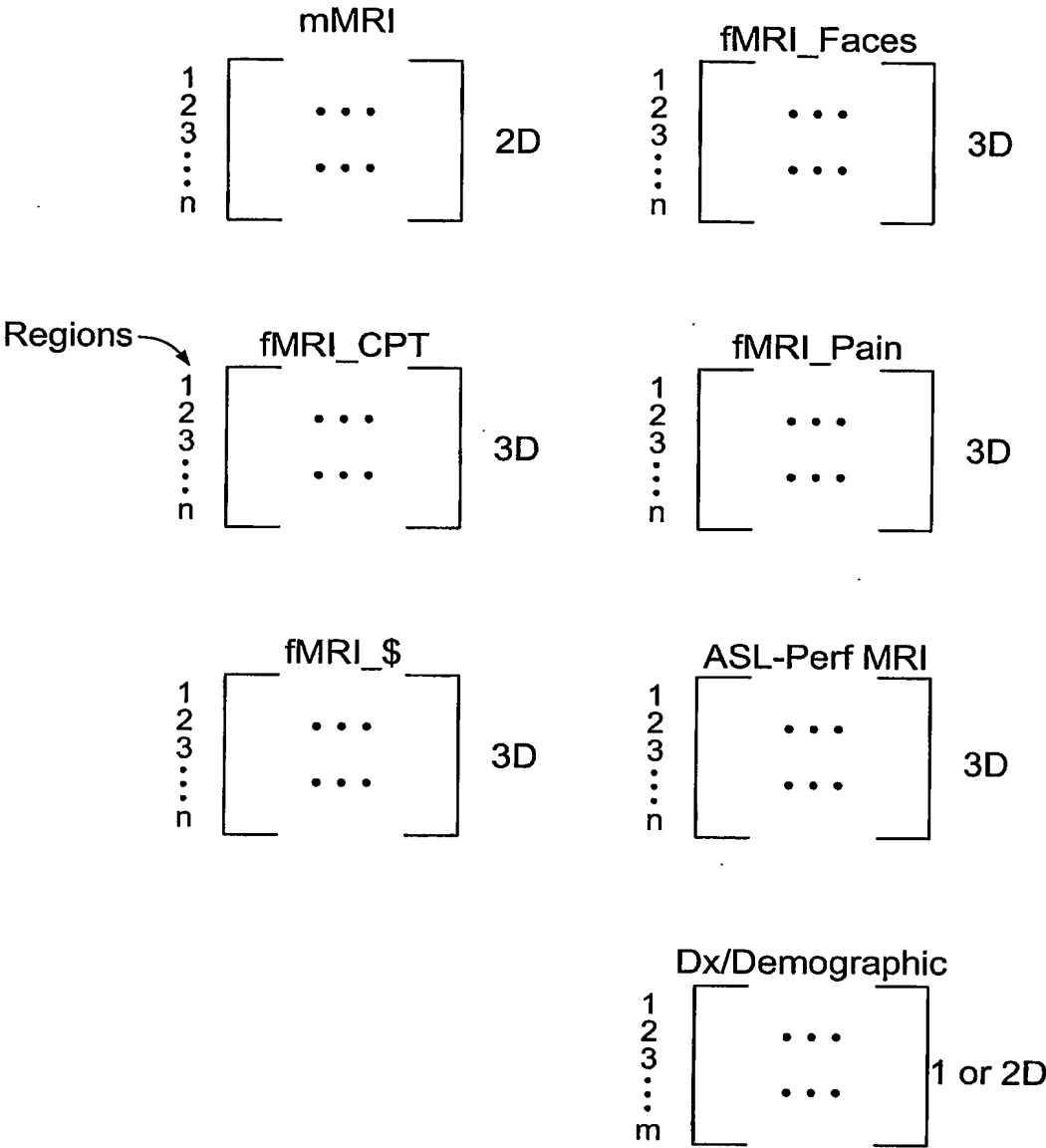


FIG. 20

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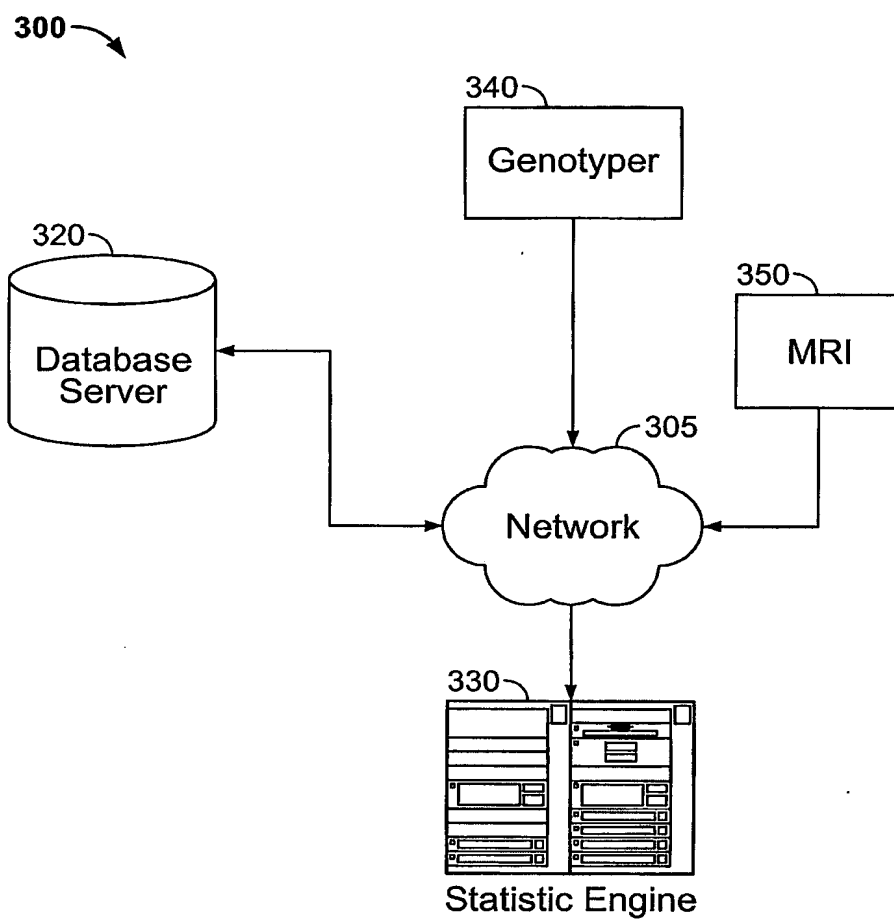


FIG. 21

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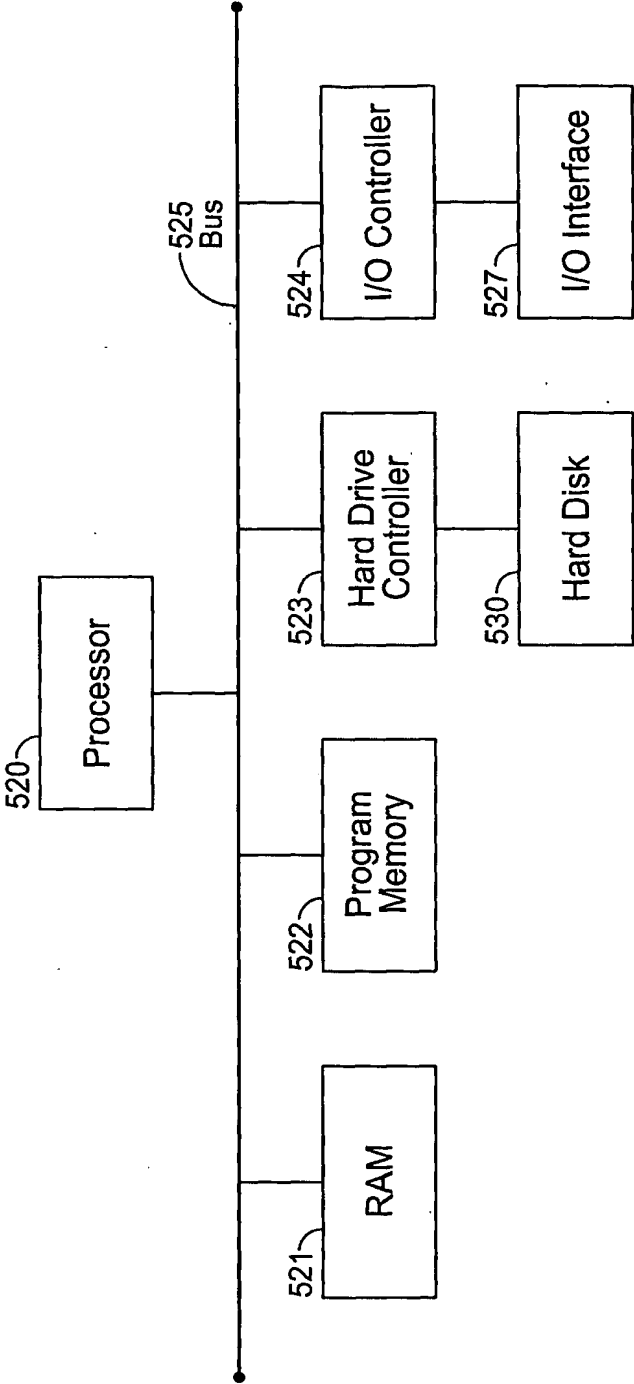


FIG. 22

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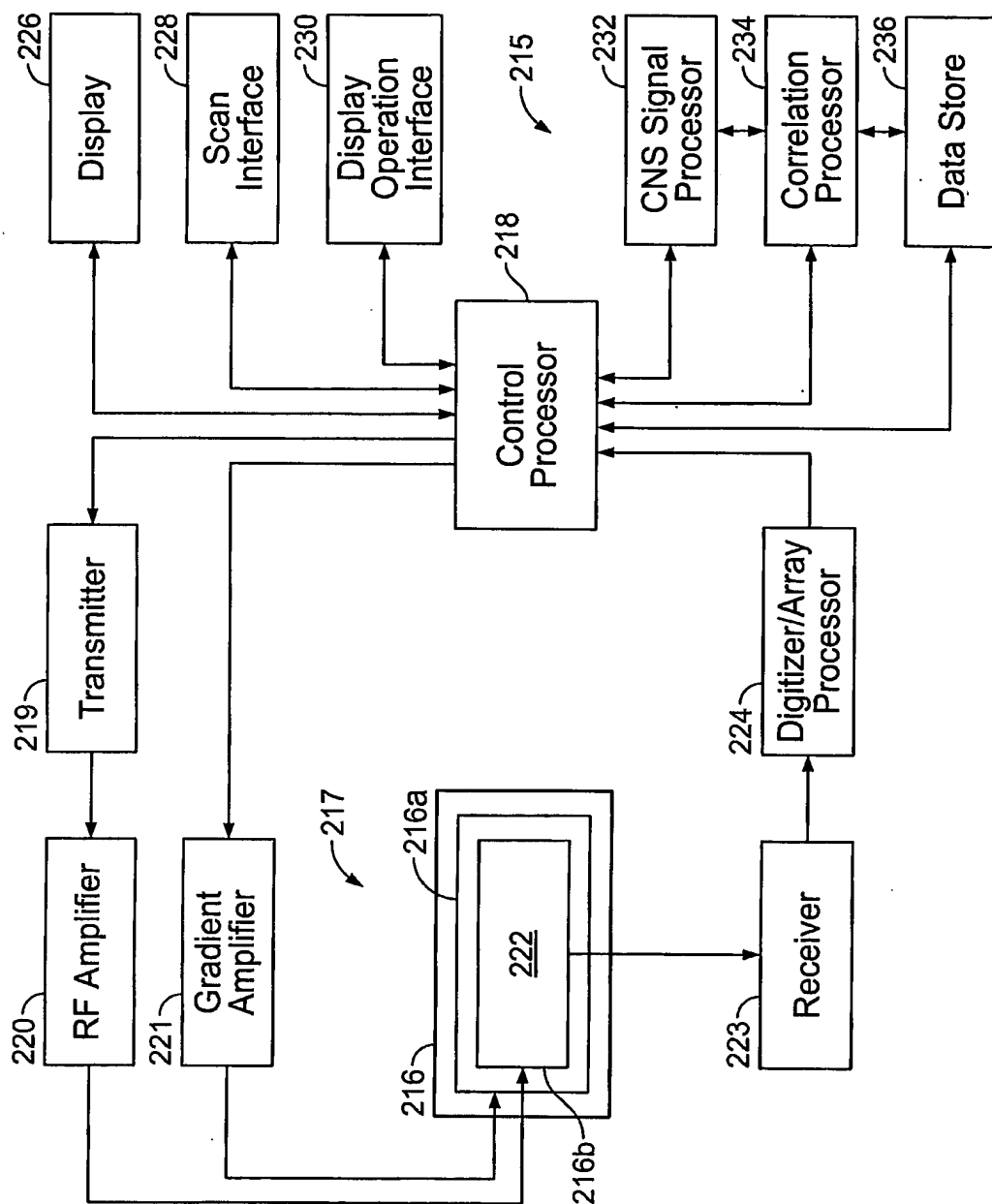


FIG. 23

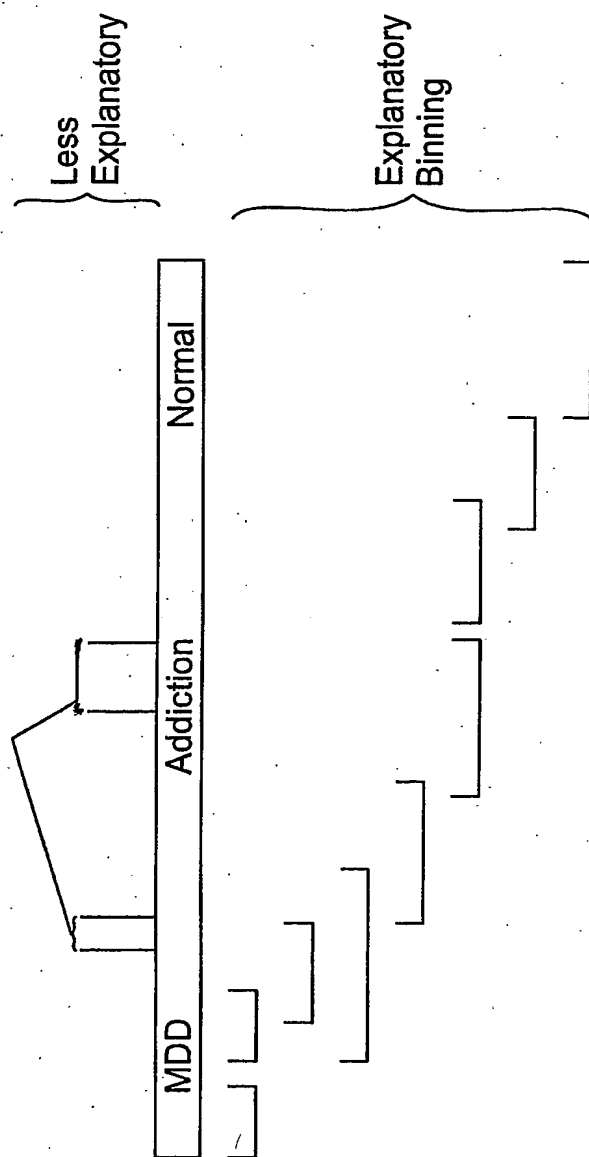


FIG. 24

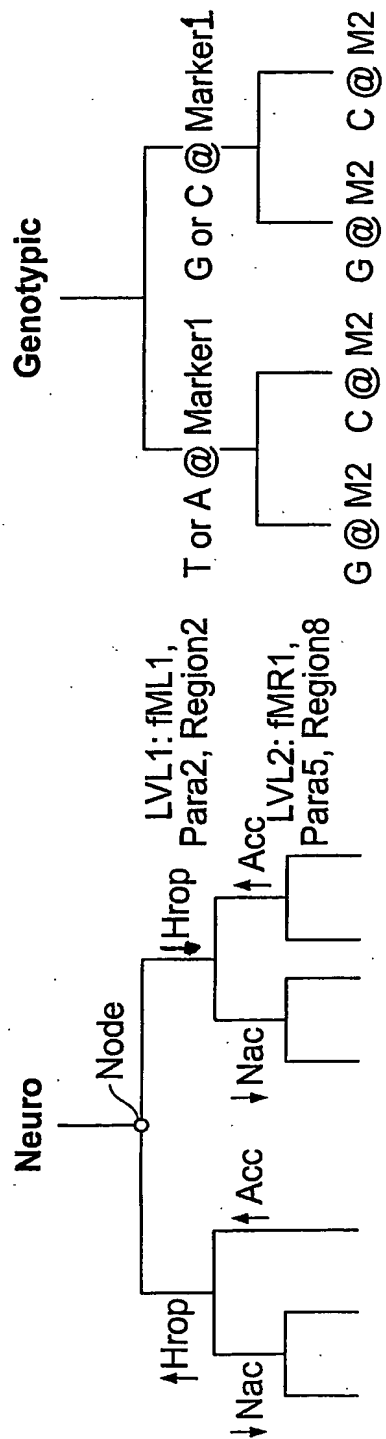


FIG. 25